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10/749,189

12/30/2003

Alan Welsh Sinclair

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WASHINGTON, DC 20006

EXAMINER

PEUGH, BRIAN R

ART UNIT

PAPER NUMBER

2187

MAIL DATE

DELIVERY MODE

01/24/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/749,189

Applicant(s)

SINCLAIR, ALAN WELSH

Examiner

Brian R. Peugh

Art Unit

2187

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10/30/07.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) 1-14 and 18-37 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15-17, 38 and 39 is/are rejected.
- 7) ☒ Claim(s) 40-42 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 9/26/07; 10/19/07; 10/30/07.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Response to Amendment

This Office Action is in response to applicant's communication filed October 30, 2007 in response to PTO Office Action dated July 3, 2007. The applicant's remarks and amendment to the specification and/or claims were considered with the results that follow.

Claims 15-17 and 38-42 have been presented for examination in this application. In response to the last Office Action, claim 15 has been amended.

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on 9/26/07, 10/19/07, and 10/30/07 are in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 15-17, 38, and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gonzalez et al. (US# 7,032,065) in view of Lasser (US# 6,988,175)

Regarding claim 15, Gonzalez et al. teaches a non-volatile memory system, comprising: an array of memory cells arranged in separately programmable planes; a plane having multiple erase blocks, an erase block being the smallest unit of the array that may be individually erased (col. 11, lines 26-34); the system configured to select a number of planes according to characteristics of data to be stored (col. 11, lines 47-62; the adjacent blocks of data in each plane [col. 11, lines 29-34] may store related data [col. 11, lines 49-59]); and the system configured to program individual erase blocks within ... selected planes in parallel (col. 11, lines 44-46).

Gonzalez fails to teach that the individual erase blocks are within each of the selected planes in parallel. Lasser teaches selecting blocks in separate planes for writing [col. 9, lines 60-63]. Therefore it would have been obvious to one of ordinary skill in the art having the teachings of Gonzalez and Lasser before him at the time the invention was made to modify the system of Gonzalez to include the plane writing system of Lasser because then the concurrent writing to separate planes would result in faster processing of the required block writes.

Regarding claim 16, Gonzalez et al. teaches wherein an individual plane is selected according to the number of available erase blocks remaining in the individual plane (col. 11, lines 35-44).

Regarding claim 17, Gonzalez et al. teaches a second array of memory cells; wherein the first array of memory cells is in a flash memory and the second array of

memory cells is in a non-volatile random access memory (col. 1, lines 14-17; col. 5, lines 27-33).

Regarding claim 38, Gonzalez et al. teaches a method of storing data in a nonvolatile memory connected to a host, comprising: receiving a first number of logically sequential sectors of data from the host (the two halves of the user data were sequential before splitting); selecting a second number of erase blocks for storage of the first number of sectors (as per example, the second number is two), each of the second number of erase blocks located in a different plane, the second number being less than the number of planes in the memory (two is less than eight), the second number being the smallest number of erase blocks that can contain the first number of sectors (as per example); and programming the first number of sectors to the second number of erase blocks in parallel (col. 11, lines 27-62).

Regarding claim 39, Gonzalez et al. teaches ones of the first number of sectors are stored in an individual one of the second number of erase blocks in a non-sequential order (once split, the data is no longer sequentially stored in the array).

Allowable Subject Matter

Claims 40-42 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

4. Applicant's arguments with respect to claims 15-17 have been considered but are moot in view of the new ground(s) of rejection.

5. Regarding Applicants argument to the failure of Gonzalez teaching all of the limitations of claim 16, the Examiner would like to point out that sectors of user data larger than the capacity of the pages are stored across adjacent pages and blocks [col. 11, lines 49-59]. Therefore a request to store a large amount of data would inherent require a plane that can support the desired amount of data, and a plane already storing an amount of data that would prohibit the storing of the large amount of data would not be selected.

Regarding Applicants argument to the failure of Gonzalez teaching all of the limitations of claim 38, the Examiner would like to point out that Gonzalez teaches an embodiment where the data is stored in two half-pages in different planes [col. 11, lines 42-44, which states that the half pages do not share a word line address, where a word line address is attributed to a plane containing the two blocks]. Gonzalez also that it may be preferable to store the two half-pages in separate lines, in which case the "...smallest number of erase blocks that can contain the first number of sectors" would actually be two.

Regarding Applicants argument to the failure of Gonzalez teaching all of the limitations of claim 39, the Examiner would like to point out that the claim does not require that the sectors to be written to must completely contain the sector data, and that the claim does not prevent a to-be-written-to sector to only be partially filled.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian R. Peugh whose telephone number is (571) 272-4199. The examiner can normally be reached on Monday-Thursday from 7:00am to 4:30pm. The examiner can also be reached on alternate Friday's from 7:00am to 4:30pm.

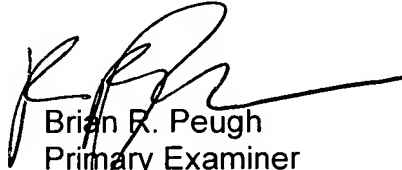
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald Sparks, can be reached on (571) 272-4201. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Application/Control Number:
10/749,189
Art Unit: 2187

Page 7

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Brian R. Peugh
Primary Examiner
Art Unit 2187
January 18, 2007